

```
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEEE SSSSSSSS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MM MM PP PP LL EE SS
EE XX XX AA AA MM MM PP PP LL EE SS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
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EE XX XX AA AA MM MM PP LL EE SS
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EEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
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```
DDDDDDDD  RRRRRRRR  SSSSSSSS  LL      VV      VV
DDDDDDDD  RRRRRRRR  SSSSSSSS  LL      VV      VV
DD      DD  RR      RR  SS      LL      VV      VV
DD      DD  RR      RR  SS      LL      VV      VV
DD      DD  RR      RR  SS      LL      VV      VV
DD      DD  RR      RR  SS      LL      VV      VV
DD      DD  RRRRRRRR  SSSSSS  LL      VV      VV
DD      DD  RRRRRRRR  SSSSSS  LL      VV      VV
DD      DD  RR  RR      SS      LL      VV      VV
DD      DD  RR  RR      SS      LL      VV      VV
DD      DD  RR      RR  SS      LL      VV      VV
DD      DD  RR      RR  SS      LL      VV      VV
DDDDDDDD  RR      RR  SSSSSSSS  LLLLLLLLLL  VV      VV
DDDDDDDD  RR      RR  SSSSSSSS  LLLLLLLLLL  VV      VV
                                         ....
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```

```
MM      MM      AAAAAA  RRRRRRRR
MM      MM      AAAAAA  RRRRRRRR
MMM     MMM     AA      AA  RR      RR
MMM     MMM     AA      AA  RR      RR
MM  MM  MM      AA      AA  RR      RR
MM  MM  MM      AA      AA  RRRRRRRR
MM      MM      AA      AA  RRRRRRRR
MM      MM      AAAAAAAAAA  RR  RR
MM      MM      AAAAAAAAAA  RR  RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
MM      MM      AA      AA  RR      RR
```

.IDENT 'V04-000'

```
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.SBTTL DECLARATIONS

INCLUDE FILES:

MACROS:

; Define the format of device messages that contain fields of a FAB

\$DEFINI DEVMSG

\$DEF	DEVMSG\$L_TYPE			;type of device message
\$DEF	DEVMSG\$L_BFRSIZ	.BLKL	1	;Master buffer size
\$DEF	DEVMSG\$L_ALQ	.BLKL	1	;allocation quantity
\$DEF	DEVMSG\$L_FOP	.BLKL	1	;file processing options
\$DEF	DEVMSG\$L_MRN	.BLKL	1	;maximum record number
\$DEF	DEVMSG\$W_DEQ	.BLKW	1	;default extension quantity
\$DEF	DEVMSG\$W_BLS	.BLKW	1	;block size
\$DEF	DEVMSG\$W_MRS			;maximum record size

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\$DEF	DEVMSG\$B_BKS	.BLKW	1	
				;bucket size
\$DEF	DEVMSG\$B_FSZ	.BLKB	1	
\$DEF	DEVMSG\$B_ORG	.BLKB	1	;file organization
\$DEF	DEVMSG\$B_RAT	.BLKB	1	;record attributes
\$DEF	DEVMSG\$B_RFM	.BLKB	1	;record format
\$DEF	DEVMSG\$B_FNS	.BLKB	1	;file spec string size
\$DEF	DEVMSG\$T_FN	.BLKB	1	;file specification string
		.BLKB	64	
\$DEFEND DEVMSG				

DTE	:	I
:	:	:
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REM	:	:
REM	:	:
CR	:	:
LF	:	:
:	:	O
:	:	:
CTR	:	:
CTR	:	:
CON	:	:
CON	:	:
CON	:	:
FAI	:	:
FAI	:	:
FAI	:	:
REA	:	:
IOS	:	:
REA	:	:
USE	:	:

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;
; EQUATED SYMBOLS:
;

;
; OWN STORAGE:
;

.PSECT SLVDATA RD,WRT,NOEXE

SLVFAB: \$FAB FAC = <BIO,GET,PUT>
SLVRAB: \$RAB FAB = SLVFAB -
ROP = <BIO,ASY> -
BKT = 0

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.SBTTL OPEN/CREATE -- OPEN DISK FILE

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FUNCTIONAL DESCRIPTION:

SLV_CREATE creates a file that is to contain data sent by Master.
SLV_OPEN opens an already existing file that contains data to be
sent to Master.
Both of these routines must initialize the FAB with fields sent
over from the Master containing information about the file.
CALLING SEQUENCE:

NONE

INPUT PARAMETERS:

DEVMSG = 4 ;the device msg containing FAB field

IMPLICIT INPUTS:

NONE

OUTPUT PARAMETERS:

STATUS = 8 ;status of call

IMPLICIT OUTPUTS:

NONE

COMPLETION CODES:

NONE

SIDE EFFECTS:

NONE

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```

.PSECT  SLVCODE      EXE,NOWRT
.ENTRY  SLV_CREATE    ^M<R6,R7,R8,R9>
MOVL    #1,R8          ;"create" flag
MOVAL   SLVFAB, R6      ;R6 <- addr of FAB
MOVAL   SLVRAB, R9      ;R9 <- addr of RAB
BRB     COMMON_FAB     ;join common FAB fields code

```

```

.ENTRY  SLV_OPEN      ^M<R6,R7,R8,R9>
CLRL    R8             ;"open" flag
MOVAL   SLVFAB, R6      ;R6 <- addr of FAB
MOVAL   SLVRAB, R9      ;R9 <- addr of RAB

```

```

; Move the fields that are common inputs for both the $OPEN and the
; $CREATE routines from the device message into the FAB.
;

```

```

COMMON_FAB:
MOVL    DEVMSG(AP), R7      ;R7 <- addr of device message

MOVB    DEVMSG$B_FNS(R7), FAB$B_FNS(R6)
MOVAL   DEVMSG$T_FN(R7), FAB$T_FNA(R6)
BLBS    R8, CREATFILE      ;branch to create file

```

```

; Come here to open the file.
;

```

```

OPENFILE:
$OPEN   FAB = (R6)
BLBS    R0, SUCCESS
BRB     STAT

```

; Must create the file. Copy remaining input to \$CREATE fields.
;

CREATFILE:

```
MOVL  DEVMSG$$_ALQ(R7), FAB$$_ALQ(R6)
MOVL  DEVMSG$$_FOP(R7), FAB$$_FOP(R6)
MOVL  DEVMSG$$_MRN(R7), FAB$$_MRN(R6)
MOVW  DEVMSG$$_BLS(R7), FAB$$_BLS(R6)
MOVW  DEVMSG$$_DEQ(R7), FAB$$_DEQ(R6)
MOVW  DEVMSG$$_MRS(R7), FAB$$_MRS(R6)
MOVB  DEVMSG$$_BKS(R7), FAB$$_BKS(R6)
MOVB  DEVMSG$$_FSZ(R7), FAB$$_FSZ(R6)
MOVB  DEVMSG$$_ORG(R7), FAB$$_ORG(R6)
MOVB  DEVMSG$$_RAT(R7), FAB$$_RAT(R6)
MOVB  DEVMSG$$_RFM(R7), FAB$$_RFM(R6)
```

; Create the file.
;

```
$CREATE FAB = (R6)
BLBC  R0, STAT
```

SUCCESS: \$CONNECT RAB = (R9) ;file open/create successful

STAT: MOVL R0, @STATUS(AP) ;store status
RET

.SBTTL _CLOSE

:++
: FUNCTIONAL DESCRIPTION:
:

```
.ENTRY  SLV_CLOSE      ^M<R2,R3>
MOVAL   SLVFAB, R3      ;R3 <- addr of FAB
MOVAL   SLVRAB, R2      ;R2 <- addr of RAB
```

```
$DISCONNECT  RAB = (R2)
BLBC         R0, 10$
```

\$CLOSE FAB = (R3)

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.SBTTL _READ

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FUNCTIONAL DESCRIPTION:

SLV_READ is called when the slave must read a buffer

CALLING SEQUENCE:

NONE

INPUT PARAMETERS:

BFRADR = 4	;address of user buffer
BFRSIZ = 8	;size in bytes of user buffer
SUCCOMP = 12	;address of success completion routine
ERRCOMP = 16	;address of error completion routine

OUTPUT PARAMETERS:

STATUS = 20	;status of call
-------------	-----------------

COMPLETION CODES:

NONE

SIDE EFFECTS:

NONE

--

.ENTRY	SLV_READ	0	
MOVAL	SLVRAB, R1		;R1 <- addr of RAB

; Copy buffer address and size into appropriate fields in RAB

INI_RAB:

MOVL	BFRADR(AP), RAB\$L_UBF(R1)
MOVW	@BFRSIZ(AP), RAB\$W_USZ(R1)

; Issue the read.

\$READ	RAB = (R1) -
	SUC = @SUCCOMP(AP) -
	ERR = @ERRCOMP(AP)

MOVL	R0, @STATUS(AP)	;store status
RET		

.SBTTL _WRITE

++
FUNCTIONAL DESCRIPTION:

SLV_WRITE is called when slave must write a buffer

CALLING SEQUENCE:

NONE

INPUT PARAMETERS:

BFRADR = 4	;address of user buffer
BFRSIZ = 8	;size of user buffer
SUCCOMP = 12	;success completion routine
ERRCOMP = 16	;error completion routine

OUTPUT PARAMETERS:

STATUS = 20	;status of call
-------------	-----------------

COMPLETION CODES:

NONE

SIDE EFFECTS:

NONE

```
--
      .ENTRY  SLV_WRITE      0
      MOVAL  SLVRAB, R1
```

Copy buffer address and size into appropriate fields in RAB.

```
INIT_RAB:
      MOVL   BFRADR(AP), RAB$RBF(R1)      ;address of user buffer
      MOVW   @BFRSIZ(AP), RAB$RBSZ(R1)    ;size of user buffer
```

Issue the write.

```
$WRITE  RAB = (R1) -
        SUC = @SUCCOMP(AP) -
        ERR = @ERRCOMP(AP)
```

```
MOVL   R0, @STATUS(AP)
RET
```

++
FUNCTIONAL DESCRIPTION:

INPUT PARAMETERS:

OUTPUT PARAMETERS:

This is a function subroutine; it returns the byte count in R0.

```
.ENTRY GETBYTCNT      0
```

```
MOVAL    SLVRAB, R1                ;R1 <- addr of RAB
MOVZWL   RAB$W_RSZ(R1), R0        ;# bytes read into last buffer
```

RET

.SBTTL GETRMSTAT

++
Get RMS completion status

```
.ENTRY  GETRMSTAT      0
```

```
MOVAL    SLVRAB, R1                ;R1 <- addr of RAB
MOVL     RAB$S_STS(R1), R0         ;completion status
```

RET

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.SBTTL _COPYFAB

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FUNCTIONAL DESCRIPTION:

SLV_COPYFAB creates a file attributes device message

CALLING SEQUENCE:

NONE

INPUT PARAMETERS:

DEVMSG = 4

IMPLICIT INPUTS:

NONE

OUTPUT PARAMETERS:

NONE

IMPLICIT OUTPUTS:

NONE

COMPLETION CODES:

NONE

SIDE EFFECTS:

NONE

--

.ENTRY SLV_COPYFAB ^M<R6,R7>

MOVAL	SLVFAB, R7	:R7 <- addr of FAB
MOVL	DEVMSG(AP), R6	:R6 <- addr of DEVMSG

: move necessary fields from FAB into DEVMSG

MOV	FAB\$ALQ(R7),	DEVMSG\$ALQ(R6)
MOVL	FAB\$FOP(R7),	DEVMSG\$FOP(R6)
MOVL	FAB\$MRN(R7),	DEVMSG\$MRN(R6)
MOVW	FAB\$DEQ(R7),	DEVMSG\$DEQ(R6)
MOVW	FAB\$BLS(R7),	DEVMSG\$BLS(R6)
MOVW	FAB\$MRS(R7),	DEVMSG\$MRS(R6)
MOVB	FAB\$BKS(R7),	DEVMSG\$BKS(R6)
MOVB	FAB\$FSZ(R7),	DEVMSG\$BKS(R6)
MOVB	FAB\$ORG(R7),	DEVMSG\$ORG(R6)
MOVB	FAB\$RAT(R7),	DEVMSG\$RAT(R6)
MOVB	FAB\$RFM(R7),	DEVMSG\$RFM(R6)

RET

```
.SBTTL  SLV_RMSERR
SM_MSG_ERROR:
.LONG  10
.ERR_ENTRY:  SLV_RMSERR      0
MOV     SLVRAB, R1
PUSHAL  RAB$LSI(SI(R1))      ; error status
PUSHAL  SM_MSG_ERROR          ; device message code
CALLS   #2, SLV_FINISH       ; error stop slave transfer

RET
.END
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0157	0158	0159	0160	0161	0162	0163	0164	0165	0166	0167	0168	0169	0170	0171	0172	0173	0174	0175	0176	0177	0178	0179	0180	0181	0182	0183	0184	0185	0186	0187	0188	0189	0190	0191	0192	0193	0194	0195	0196	0197	0198	0199	0200	0201	0202	0203	0204	0205	0206	0207	0208	0209	0210	0211	0212	0213	0214	0215	0216	0217	0218	0219	0220	0221	0222	0223	0224	0225	0226	0227	0228	0229	0230	0231	0232	0233	0234	0235	0236	0237	0238	0239	0240	0241	0242	0243	0244	0245	0246	0247	0248	0249	0250	0251	0252	0253	0254	0255	0256	0257	0258	0259	0260	0261	0262	0263	0264	0265	0266	0267	0268	0269	0270	0271	0272	0273	0274	0275	0276	0277	0278	0279	0280	0281	0282	0283	0284	0285	0286	0287	0288	0289	0290	0291	0292	0293	0294	0295	0296	0297	0298	0299	0300	0301	0302	0303	0304	0305	0306	0307	0308	0309	0310	0311	0312	0313	0314	0315	0316	0317	0318	0319	0320	0321	0322	0323	0324	0325	0326	0327	0328	0329	0330	0331	0332	0333	0334	0335	0336	0337	0338	0339	0340	0341	0342	0343	0344	0345	0346	0347	0348	0349	0350	0351	0352	0353	0354	0355	0356	0357	0358	0359	0360	0361	0362	0363	0364	0365	0366	0367	0368	0369	0370	0371	0372	0373	0374	0375	0376	0377	0378	0379	0380	0381	0382	0383	0384	0385	0386	0387	0388	0389	0390	0391	0392	0393	0394	0395	0396	0397	0398	0399	0400	0401	0402	0403	0404	0405	0406	0407	0408	0409	0410	0411	0412	0413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	0425	0426	0427	0428	0429	0430	0431	0432	0433	0434	0435	0436	0437	0438	0439	0440	0441	0442	0443	0444	0445	0446	0447	0448	0449	0450	0451	0452	0453	0454	0455	0456	0457	0458	0459	0460	0461	0462	0463	0464	0465	0466	0467	0468	0469	0470	0471	0472	0473	0474	0475	0476	0477	0478	0479	0480	0481	0482	0483	0484	0485	0486	0487	0488	0489	0490	0491	0492	0493	0494	0495	0496	0497	0498	0499	0500	0501	0502	0503	0504	0505	0506	0507	0508	0509	0510	0511	0512	0513	0514	0515	0516	0517	0518	0519	0520	0521	0522	0523	0524	0525	0526	0527	0528	0529	0530	0531	0532	0533	0534	0535	0536	0537	0538	0539	0540	0541	0542	0543	0544	0545	0546	0547	0548	0549	0550	0551	0552	0553	0554	0555	0556	0557	0558	0559	0560	0561	0562	0563	0564	0565	0566	0567	0568	0569	0570	0571	0572	0573	0574	0575	0576	0577	0578	0579	0580	0581	0582	0583	0584	0585	0586	0587	0588	0589	0590	0591	0592	0593	0594	0595	0596	0597	0598	0599	0600	0601	0602	0603	0604	0605	0606	0607	0608	0609	0610	0611	0612	0613	0614	0615	0616	0617	0618	0619	0620	0621	0622	0623	0624	0625	0626	0627	0628	0629	0630	0631	0632	0633	0634	0635	0636	0637	0638	0639	0640	0641	0642	0643	0644	0645	0646	0647	0648	0649	0650	0651	0652	0653	0654	0655	0656	0657	0658	0659	0660	0661	0662	0663	0664	0665	0666	0667	0668	0669	0670	0671	0672	0673	0674	0675	0676	0677	0678	0679	0680	0681	0682	0683	0684	0685	0686	0687	0688	0689	0690	0691	0692	0693	0694	0695	0696	0697	0698	0699	0700	0701	0702	0703	0704	0705	0706	0707	0708	0709	0710	0711	0712	0713	0714	0715	0716	0717	0718	0719	0720	0721	0722	0723	0724	0725	0726	0727	0728	0729	0730	0731	0732	0733	0734	0735	0736	0737	0738	0739	0740	0741	0742	0743	0744	0745	0746	0747	0748	0749	0750	0751	0752	0753	0754	0755	0756	0757	0758	0759	0760	0761	0762	0763	0764	0765	0766	0767	0768	0769	0770	0771	0772	0773	0774	0775	0776	0777	0778	0779	0780	0781	0782	0783	0784	0785	0786	0787	0788	0789	0790	0791	0792	0793	0794	0795	0796	0797	0798	0799	0800	0801	0802	0803	0804	0805	0806	0807	0808	0809	0810	0811	0812	0813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	0825	0826	0827	0828	0829	0830	0831	0832	0833	0834	0835	0836	0837	0838	0839	0840	0841	0842	0843	0844	0845	0846	0847	0848	0849	0850	0851	0852	0853	0854	0855	0856	0857	0858	0859	0860	0861	0862	0863	0864	0865	0866	0867	0868	0869	0870	0871	0872	0873	0874	0875	0876	0877	0878	0879	0880	0881	0882	0883	0884	0885	0886	0887	0888	0889	0890	0891	0892	0893	0894	0895	0896	0897	0898	0899	0900	0901	0902	0903	0904	0905	0906	0907	0908	0909	0910	0911	0912	0913	0914	0915	0916	0917	0918	0919	0920	0921	0922	0923	0924	0925	0926	0927	0928	0929	0930	0931	0932	0933	0934	0935	0936	0937	0938	0939	0940	0941	0942	0943	0944	0945	0946	0947	0948	0949	0950	0951	0952	0953	0954	0955	0956	0957	0958	0959	0960	0961	0962	0963	0964	0965	0966	0967	0968	0969	0970	0971	0972	0973	0974	0975	0976	0977	0978	0979	0980	0981	0982	0983	0984	0985	0986	0987	0988	0989	0990	0991	0992	0993	0994	0995	0996	0997	0998	0999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	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